



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,749	05/17/2006	Rainer Scharp	SCHARP-7 PCT	5442
25889	7590	12/11/2007	EXAMINER	
WILLIAM COLLARD			LESLIE, MICHAEL S	
COLLARD & ROE, P.C.				
1077 NORTHERN BOULEVARD			ART UNIT	
ROSLYN, NY 11576			PAPER NUMBER	
			3745	
			MAIL DATE	
			DELIVERY MODE	
			12/11/2007	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<div style="border: 1px solid black; width: 150px; height: 20px; margin: 0 auto;"></div> <p style="text-align: center;">Office Action Summary</p>	Application No. 10/574,749	Applicant(s) SCHARP, RAINER	
	Examiner Michael Leslie	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/6/2006</u> | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____ |
|--|--|

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "continuous gap" closed with a "circumferential collar" (Claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: The specification lacks a description of the circumferential collar closing the continuous gap.

Appropriate correction is required.

Claim Objections

Claim 1 is objected to because of the following informalities: Claim 1, Line 13, "Shaft" should be --skirt--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kemnitz (5778533) in view of Deutschmann et al (4577595).

Kemnitz discloses a one-part piston for an internal combustion engine, having a piston crown (2), having two pin boss supports (not labeled) molded onto the piston crown for one pin boss (5) each, whereby the pin boss supports and the faces of the pin bosses are disposed set back relative to the radially outer edge of the piston crown, in the direction of the piston longitudinal axis, having two skirt elements (4) that connect the pin bosses, which are connected with the piston crown by way of one skirt connection each, whereby recesses (not labeled) are

molded into the shaft connections between the skirt elements and the piston crown, having a ring-shaped cooling channel (8) disposed in the edge region of the piston crown, the radially outer delimitation of which is formed by a ring wall (3) molded onto the piston crown, and the radially inner delimitation of which is formed partly by the pin boss supports and partly by the skirt connections, and having a projection (not labeled, Fig. 3) that runs around the circumference and is partly molded onto the pin boss supports and partly onto the skirt connections, and is nose-shaped in cross-section, wherein the cooling channel is closed off by a ring (10), which has an axially oriented continuous gap (not labeled, Fig. 4) and a circumferential collar (ring outer periphery) disposed on its outside, which forms a snap-in connection with a circumferential groove (not labeled) molded into the inside of the ring wall, whereby the ring makes contact on the projection. Kemnitz does not teach that the ring is of an essentially cylinder shape.

It appears that the ring having a cylinder shape does not solve any stated problem or is for any particular purpose above the fact that the ring of the instant invention must be cylindrical to cover the space between the projection and the inside of the ring wall, and it appears that the ring of Kemnitz would have also had a cylindrical shape if the dimensions of the piston required the inner and outer connecting points to be positioned to require a cylindrical shape to close the cooling channel.

Deutschmann et al discloses a piston having a ring shaped cooling channel (21) delimited outwardly by a ring wall (16) and inwardly by pin boss supports and skirt connections, wherein the cooling channel is closed off by a ring (19) of cylindrical shape.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the ring of Kemnitz to have a cylindrical shape as taught by Deutschmann et al for the purpose of closing of the cooling channel.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemnitz (5778533) in view of Deutschmann et al (4577595) as applied to claim 1 above, and further in view of Bochart (6634278).

Kemnitz, as modified above with respect to claim 1, does not teach a material for the ring.

Bochart discloses a piston having a ring shaped cooling channel (45) delimited outwardly by a ring wall (32) and inwardly by pin boss supports and skirt connections, wherein the cooling channel is closed off by a ring (46, 68) wherein the ring can formed from metal or a heat resistant plastic (Column 3, Lines 2-5).

Allowable Subject Matter

Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 6032619, 3221722, and 2002/0178910 A1 each disclose a piston having an annular cooling channel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Leslie whose telephone number is (571) 272-4819. The examiner can normally be reached on M-F 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML
December 6, 2007


Michael Leslie
Primary Examiner
AU 3745